Amendments to the Claims:

1. (Cancelled)

2. (Previously Presented) A method of magnetic resonance imaging using a magnetic resonance imaging scanner which generates a magnetic field that is more linear adjacent a magnetic isocenter and is less linear displaced from the magnetic isocenter, the method comprising:

obtaining a first magnetic resonance image of a patient including an anatomical target and at least one fiducial marker displaced from the anatomical target, the first image being obtained at a position of the patient within said scanner wherein the anatomical target is located in close vicinity to said magnetic isocenter and the at least one fiducial marker is located further from the magnetic isocenter than the anatomical target, such that a region of the first image which includes the anatomical target is less distorted than a region which includes the at least one fiducial marker;

obtaining a second magnetic resonance image of the patient including the anatomical target and the at least one fiducial marker, the second image being obtained at a shifted position of the patient within said scanner wherein the at least one fiducial marker is located in close vicinity to said magnetic isocenter and the anatomical region is located further from the magnetic isocenter than the at least one fiducial marker such that a region of the second image which includes the at least one fiducial marker is less distorted than a region which includes the anatomical target;

merging the less distorted region of the first image which includes the anatomical target and the less distorted region of the second image which includes the at least one fiducial marker into a composite image; and

at least one of storing the composite image in computer memory and displaying the composite image on a monitor.

3. (Previously Presented) The method as claimed in claim 2, further including:

shifting of the patient relative to the magnetic isocenter between the first and second images and measuring the shift and wherein accurate geometrical positions of the target and the at least one fiducial marker are determined using the measured shift of the patient.

4. (Previously Presented) The method as claimed in claim 2, further including:

overlapping corresponding parts in the first and second images to form said composite image.

5. (Previously Presented) The method as claimed in claim 2, wherein a Field-of-View (FOV) is determined which has geometrical positions with a prescribed accuracy for the target in the first image and the at least one fiducial marker in the second image.

6. (Previously Presented) The method as claimed in claim 2, wherein said at least one fiducial marker is applied left and right laterally on the patient.

7. (Previously Presented) The method as claimed in claim 2, wherein said at least one fiducial marker is applied laterally on both sides anterior and posterior on the patient.

8. (Previously Presented) The method as claimed in claim 2, wherein said at least one fiducial marker is applied anterior or posterior on the patient.

9. (Previously Presented) The method as claimed in claim 2, further including:

- shifting the patient to locate each of a plurality of additional fiducial markers in close vicinity to the magnetic isocenter,

- obtaining additional magnetic resonance images with each of the additional fiducial markers in close vicinity to the magnetic isocenter, and

- merging the additional magnetic resonance images with the first and second images to form the composite image.

10. (Cancelled)

11. (Currently Amended) A magnetic resonance imaging system which generates a magnetic field with a magnetic center, as origin for locating an anatomical target in a patient wherein at least one fiducial marker is ~~adapted~~ configured to be placed on the patient, the magnetic resonance imaging system comprising:

a magnetic resonance scanner; and

a workstation programmed to:

control [[a]] the magnetic resonance ~~imager~~ scanner to acquire a first magnetic resonance image of an anatomical target and at least one fiducial placed on the patient displaced ~~form~~ from the anatomical target, ~~in which first magnetic resonance image~~ the anatomical target ~~is imaged~~ being located at a more geometrically accurate position and the at least one fiducial ~~is in~~ being located at a less geometrically accurate position, such that in the first magnetic resonance image, the anatomical target is depicted with greater geometric accuracy than the at least one fiducial and

control the magnetic resonance scanner to acquire a second magnetic resonance image at a shifted position relative to the first magnetic resonance image, ~~in which second magnetic resonance image~~ the fiducial marker ~~is imaged~~ being located at the more geometrically accurate position and the anatomical target ~~is imaged~~

4

being located at the less geometrically accurate position, ~~such that in the second magnetic resonance image, the fiducial is depicted with greater geothermic accuracy than the anatomical target~~

merge ~~overlapping   the~~ corresponding <u>partially overlapping</u> parts of the first and second magnetic resonance images into a single image <u>in which both the anatomical target and the at least one fiducial are depicted with the higher geometric accuracy</u>.

12. (Previously Presented)   The magnetic resonance imaging system as claimed in claim 11, further comprising:

- a patient table which permits repositioning of the patient in the left-right direction to bring various regions of interest across the patient in close vicinity of a magnetic center of magnetic field of the magnetic resonance imager.

13-18.   (Cancelled)

19. (Previously Presented)   The system as claimed in claim 11, wherein the accurate geometrical position is closely adjacent a magnetic isocenter.

20. (Cancelled)

21. (Previously Presented)   A method comprising:

generating a magnetic field with an MR scanner having a magnetic isocenter, a field-of-view (FOV) surrounding the isocenter and sized to have a geometrical accuracy within a preselected tolerance;

applying at least one fiducial marker to a body of the patient at a distance from an anatomical target;

obtaining a first MR image of the patient at a first position in which the anatomical target is positioned within the FOV,

obtaining a second MR image of the patient at a second position in which the fiducial marker is positioned within the FOV, the second position being shifted relative to the first position,

creating a composite image by merging the overlapping corresponding parts in the first MR image in which the anatomical target is in the FOV and second MR image in which the at least one fiducial is in the FOV such that the composite image accurately displays relative geometric positions of the anatomical target and the fiducial marker, and

at least one of storing and displaying the composite image.

22. (Currently Amended) A system comprising:

a non-transitory computer readable medium carrying software which controls one or more computers ~~programmed~~ to perform the steps of:

receiving a first MR image of a patient in a first position in which an anatomical target is within a FOV which is sufficiently adjacent an isocenter of a magnetic field used to generate the first MR image to have a preselected geometrical accuracy;

receiving a second MR image of the patient in a second position in which a fiducial marker is within the FOV, the second position being shifted relative to the first position;

overlapping corresponding parts in the first and second MR images to create a composite image in which the anatomical target and the fiducial marker are depicted with the preselected geometrical accuracy.

23. (New) The magnetic resonance imaging system as claimed in claim 11, wherein a region of the first magnetic resonance image which includes the anatomical target is less distorted than a region which includes the at least one fiducial marker and a region of the second magnetic resonance image which includes the at least one fiducial marker is less distorted than a region which includes the anatomical target;

24. (New) The system as claimed in claim 22, wherein a target region of the first MR image which includes the anatomical target is less distorted than a fiducial region of the first MR image which includes the fiducial marker and a

6

the fiducial region of the second MR image which includes the fiducial marker is less distorted than the largest region of the second MR image which includes the anatomical target; and

wherein in the composite image, the target region and the fiducial region are depicted with the preselected geometrical accuracy.